



Blue Grass Chemical Agent-
Destruction Pilot Plant

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Secondary Waste Treatment and Disposal

The safe treatment or disposal of secondary waste produced during chemical weapons destruction operations is a key element in successfully destroying the chemical weapons stockpile stored at the Blue Grass Army Depot.

The Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) will produce secondary waste during plant operations and closure. These wastes include items such as personal protective equipment, cleaning materials, equipment parts, carbon filters and decontamination solutions.

Secondary Waste Management

Together with federal and state environmental regulators, the BGCAPP team is in the process of establishing procedures for characterizing and processing secondary waste in compliance with all applicable laws. Lessons learned from other chemical weapons destruction facilities are also being applied.

Secondary waste material will be generated during BGCAPP operations, maintenance and closure activities. Materials will be decontaminated or cleaned, monitored and then placed in containers. The materials will then be shipped off site for disposal in accordance with state and federal regulatory guidelines to an approved treatment, storage and disposal facility (TSDF). Materials that are not available to offsite shipment will be treated on site at BGCAPP through the appropriate waste handling system prior to shipping off site for further treatment and disposal at a TSDF.

Worker and environmental safety will not be compromised by off-site shipment and treatment of secondary waste associated with BGCAPP operations. Off-site treatment or disposal of these types of waste has been safely accomplished by other chemical weapons destruction sites at considerable savings to the taxpayer with acceptance of both the generating and receiving communities.

TSDFs selected to receive the waste will have demonstrated excellent safety and environmental protection records, be subject to strict regulatory oversight, possess state-of-the-art equipment and processes, and will have established active public involvement programs with their surrounding communities. Transport contractors that are selected will be properly licensed hazardous material carriers with top safety and performance records. As appropriate to the nature of a particular waste, coordination will be made with emergency response agencies along selected transportation routes.

Secondary Waste at the Blue Grass Chemical Agent-Destruction Pilot Plant

Some secondary waste material will be treated on site when it can be done safely, efficiently and in accordance with Kentucky environmental permits. For example, at BGCAPP, a Metal Parts Treater (MPT) will process certain permitted waste material, such as agent-contaminated miscellaneous metal parts and munition bodies and some personal protective equipment. However, when safety, efficiency and cost savings are better achieved by treating the secondary waste material off site, BGCAPP may partner with permitted facilities and community stakeholders to safely treat or dispose of waste off site.

BGCAPP coordinates all secondary waste treatment and/or disposal with the U.S. Environmental Protection Agency and the Kentucky Department for Environmental Protection. Approaches to treating or disposing of the different types of secondary waste material are described in the following chart. This chart will be updated and expanded as the BGCAPP design is finalized and the approaches will be negotiated during the permitting process.

Secondary Waste Treatment and Disposal (continued)

Proposed Secondary Waste Management Approaches at BGCAPP

Waste	Source	Management Method
Carbon	Operations and closure activities	Unspecified off-site TSDF
Concrete	Maintenance and closure activities	MPT Unspecified TSDF (if agent contamination concentration is below release criteria)
Energetics (rocket motor propellant)	Rocket processing operations	Disposal methods under consideration for separated rocket motors include off-site treatment, treatment/disposal by the Blue Grass Army Depot as conventional munitions and disposal by BGCAPP using Explosive Detonation Technology Contaminated rocket motors treated in the Energetics Batch Hydrolyzers
Projectile munitions bodies	Projectile processing operations	MPT
Metallic debris	Maintenance and closure activities	MPT Unspecified TSDF (if agent contamination concentration is below release criteria)
Non-metallic debris (combustible solids)	Operations, maintenance and closure activities	MPT Unspecified TSDF (if agent contamination concentration is below release criteria)
Aluminum precipitation system filter cake	Aluminum precipitation	Unspecified TSDF (non-agent contaminated)
Metal Parts Treater residue	Operations and closure activities	Unspecified TSDF (non-agent contaminated)
Rubber/rubber-coated items	Operations, maintenance and closure activities	MPT Unspecified TSDF (if agent contamination concentration is below release criteria)
Spent decontamination solution	Operations, maintenance and closure activities	On-site hydrolysis/SCWO Supercritical Water Oxidation (SCWO)
Spill residue	Spill-response activities	MPT On-site hydrolysis/SCWO Unspecified TSDF (if agent contamination concentration is below release criteria)
Expired shelf-life chemicals	Laboratory	Unspecified TSDF (non-agent contaminated)
Tank, sump and strainer sludge	Operations, maintenance and closure activities	MPT Unspecified TSDF (if agent contamination concentration is below release criteria)
Used oils	Maintenance and closure activities	Recycling
Reject brine from reverse osmosis of SCWO effluent	SCWO	Unspecified TSDF